# TH-06
# DataLogger And Analytics
# Temperature Sensing Bot

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Youtube link of ScreenCast is
https://www.youtube.com/watch?v=FeQdJA69_1o&feature=youtu.be

Hello I'm Girraj from team TH-06. I'll walk you through our embedded systems project DataLogger And Anaylytics
This project enables you to monitor the temperature variations of the greenhouse on a 3D graph from a web interface.
These are the following softwares we used to build this project.

1. LPCXpresso v4.1.5_219 to burn the code in Firebird-6
2. Netbeans and jdk to make a web application
3. X-ctu terminal to view the tempreture reading in our computer terminal(for visualiation porpose)
4. xampp to create mysql server(for maintaing databse)

Let me begin the components we have used to build this project.

This is LM35e emperare sensor

this is the cuircut to measure the temperature in millivolts
and This is actual implementation of cuircut we used.

This is xbee module which is used for PC. Firebird 6 has its own Xbee installed in itself.

This is system architecture as a whole.
As you can see there is wooden rod of 6 feet height on which we have four lm35 tempreture sensors deployed on various hieghts. Below that there is a base to provide support 6 feet hieght. Xbee on PC side receives temperature readings and our backend program put these values into our database. While putting these values into our database we have to multiply these values by 0.072 to get the temperature in degree centigrade.

These latest readings automatically gets updated in our real time web application which shows the 3d graph of temperature variations.

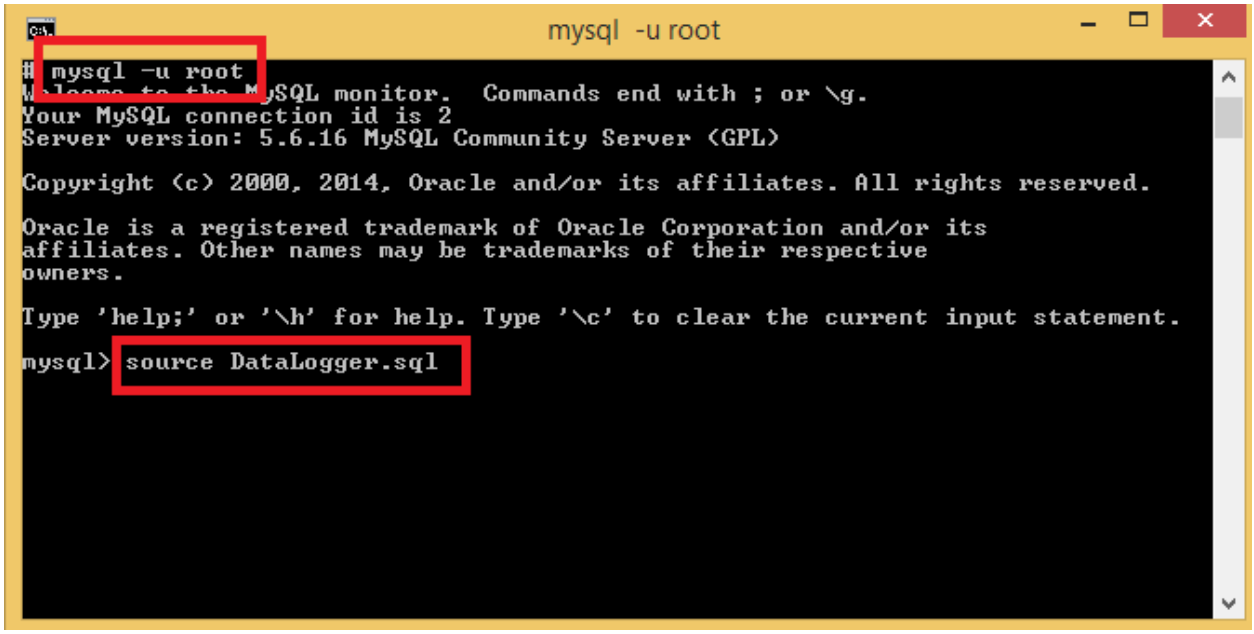
Temperature variations are shown here with colors to determine the temperature intensity at particular point.

To configure the project.

- setup and configure your code:
  1) first of all
  2) put DataLogger.sql in C:\xampp folder (this is the sql script file which would create the database and desired data tables)
  3) Here you can see we have created database Data_logger
  4) We created two tables data_table for temperature values and login_data for authentication on web interface.
  5) now start the xaamp control panel,

  6) run mysql terminal and follow these commands.
     On mysql console type following commands one by one
     mysql –u root
     source DataLogger.sql

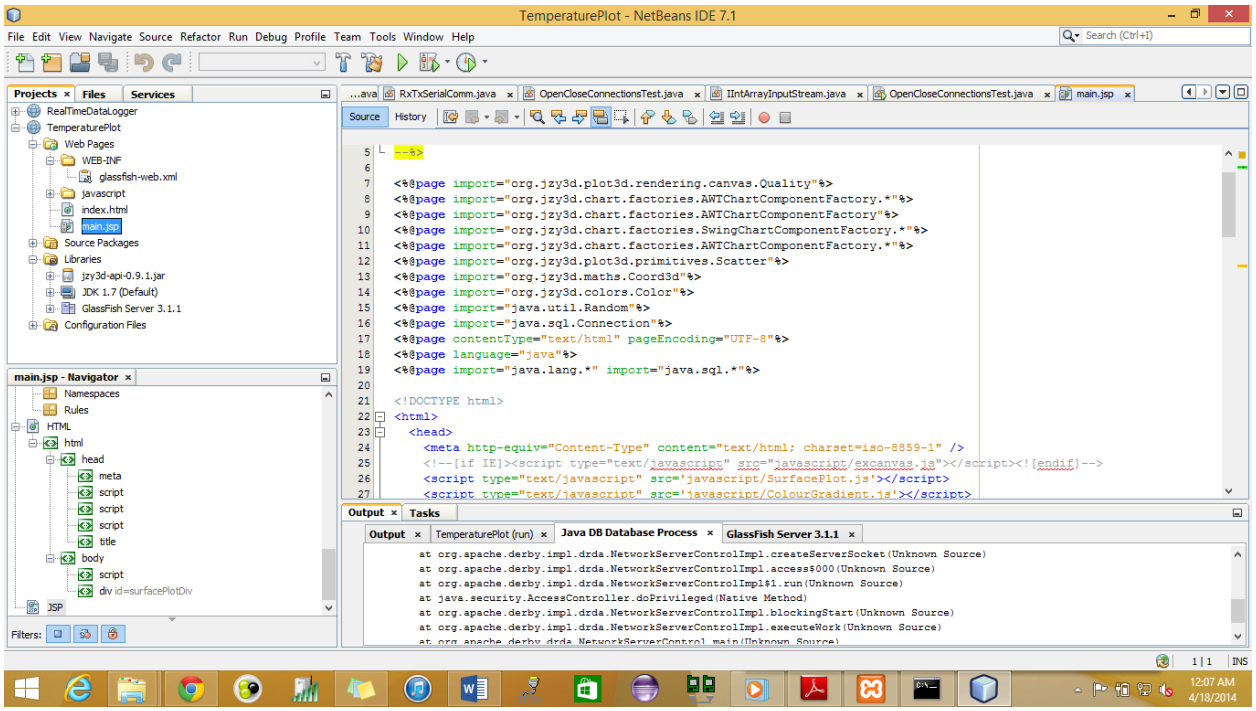
     Firebird Programming for moving the bot in the greenhouse and sending the sensed values at every 3 seconds interval. LPCExpresso is used for writing this code and burn into fv6.



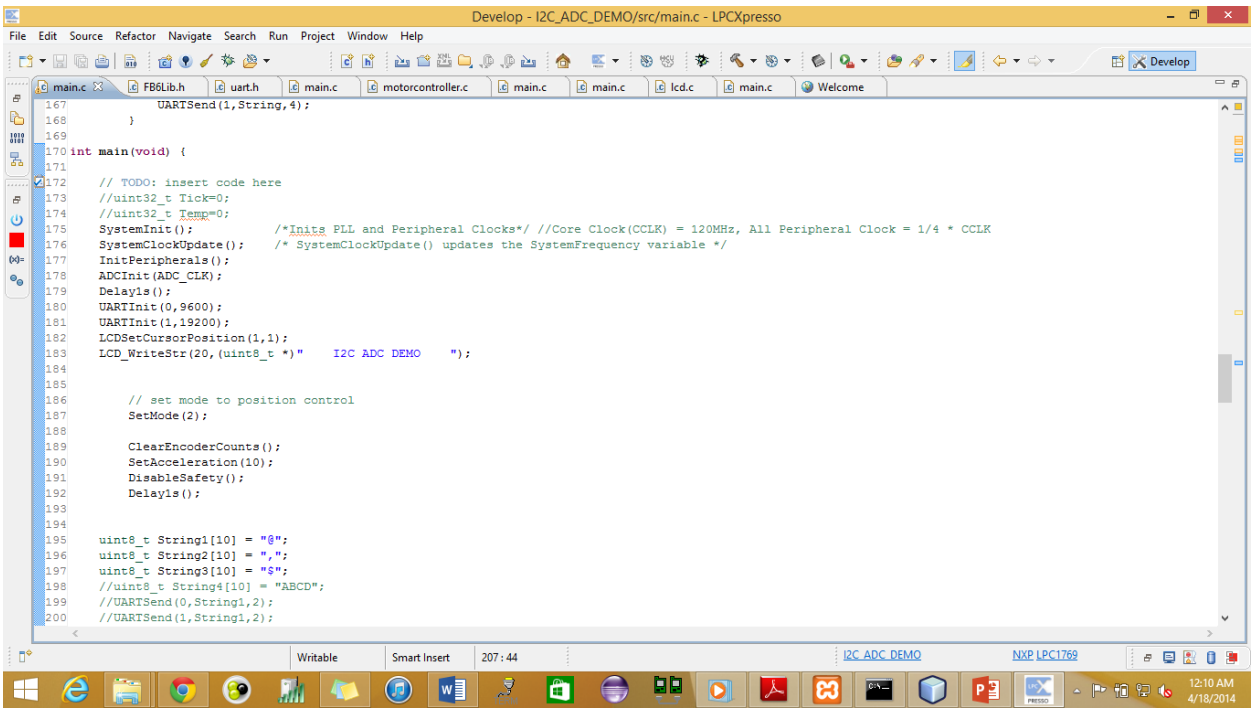

     Run web application

     Open netbeans, open project “TemperaturePlot”
     Resolve missing jar files by locating the jar file containing folder
     Add glashfish server 3.1.1 to project by right click on the project name

     Run the application you will see the main page of our project.




LPCExpresso Code Screenshot



This is the real time web application we made for showing the temperature avriations in the greenhouse as you can see there are three axis (xy plane) show the position of the bot and the z-axis would show the temperature values at different hieghts in the greenhouse.